REMARKS

In the Office Action dated April 12, 2006, claim 17 was objected to under 37 C.F.R.§ 1.75 as being a substantial duplicate of claim 16. The Examiner is correct, and claim 17 accordingly has been cancelled.

Claims 1, 2, 11, 13 and 21-25 were rejected under 35 U.S.C. §102(b) as being anticipated by Antonuk et al. This rejection is respectfully traversed for the following reasons.

As discussed in Applicants' previous response, the subject matter disclosed and claimed in the present application is for the purpose of measuring a radiation dose using a device that is suitable for introduction into the radiation beam path, such as in the beam path of an x-ray imaging apparatus. This means that the device will necessarily be disposed in front of the x-ray detector that detects or acquires the image information. Measurement of the radiation dose at this location, therefore, must be accomplished as little radiation absorption as possible, but an adequate signal representing the dose measurement must still be obtained from the device. These competing goals are achieved by the measurement device and radiation image acquisition apparatus in accordance with the present invention by structuring the absorption structure of the measurement device in the form of a number of thin-film layers disposed on top of each other. This thin film structure achieves the goal of low radiation absorption. Within this thin film structure, scintillator material is provided in one of the layers, which achieves the goal of suitable amplification of the signal. The device disclosed and claimed in the present application is therefore able to provide a meaningful output signal, but does not significantly block radiation from reaching the image detector.

Contributing to the goal of achieving as little radiation absorption in the measurement device as possible, is the use of a carrier or substrate that is also extremely thin, this carrier being explicitly referred to in each of independent claims 1 and 25 as a foil-like carrier. The Examiner referred to the Antonuk et al. reference as disclosing a foil-like carrier, which the Examiner stated is the substrate 12 shown in Figure 1 of the Antonuk et al. reference. Applicants acknowledge that the Antonuk et al. reference discloses that this substrate 12 can be composed of glass, but do not find any disclosure anywhere in the Antonuk et al. reference that the substrate 12 is a "foil-like carrier." The only location in the entirety of the Antonuk et al. reference wherein the glass substrate 12 is mentioned is at column 7, line 67, and there is no mention whatsoever regarding the thickness of the glass substrate 12 at that location, or any other location in the Antonuk et al. reference. In fact, there is no indication in the Antonuk et al. reference that the inventors in that reference consider the thickness of the glass substrate 12 to be of any particular importance.

Applicants therefore submit that the Antonuk et al. reference does not disclose all of the elements of independent claims 1 and 25 as arranged and operating in those claims, and thus does not anticipate either of those claims.

In the event that the Examiner may consider the modifier "foil-like" to be sufficiently broad so as to possibly encompass a structure such as the glass substrate 12 disclosed in the Antonuk et al. reference, dependent claims 26 and 27 have been added, respectively depending from claims 1 and 25, that set forth a specific thickness range for the foil-like carrier, namely a thickness in the range between 20 μm and 2000 μm. Support for the subject matter of claims 26 and 27 is present in the specification as originally filed at page 9, lines 3 and 4. Even if the

Examiner may consider the glass substrate 12 disclosed in the Antonuk et al. reference as possibly satisfying the "foil-like carrier" language of claims 1 and 25, clearly the Antonuk et al. reference does not specific or suggest a thickness range for the glass substrate 12 corresponding to that set forth in claims 26 and 27.

Claims 2, 11, 13 and 21-24 add further structure to the novel combination of independent claim 1, and therefore none of those dependent claims is anticipated by Antonuk et al. for the same reasons discussed above in connection with claim 1.

Claims 3-6, 8-10, 16, 18 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Antonuk et al., further in view of Forrest et al. Claim 20 was rejected under 35 U.S.C. §103(a) as being unpatentable over Antonuk et al., further in view of Maier. Claims 7 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Antonuk et al. and Forrest et al., further in view of Afzali-Ardakani et al.

These rejections are respectfully traversed for the same reasons discussed above with regard to the anticipation rejection of independent claim 1, from which all of those claims depend. Since Applicants do not agree that the Antonuk et al. reference discloses all of the elements of claim 1, Applicants submit that if the Antonuk et al. reference were modified in accordance with the teachings of any of the aforementioned secondary references, the subject matter of the rejected dependent claims still would not result.

A further fact that is relevant in the context of the rejections under 35 U.S.C. §103(a) is that the Antonuk et al. reference is directed to an imaging device, rather than a radiation measurement device. As is well-known to those of ordinary skill in the field of designing both radiation measurement devices and image detection

devices, image detection devices should ideally be designed to absorb as much radiation as possible, in order to achieve a good signal-to-noise ratio. As noted above, this is contrary to one of the goals of the measurement device of the present invention. Therefore, a person of ordinary skill in the field of designing a radiation measurement device, even if he or she had already decided that the measurement device should absorb as little radiation as possible, would find it counter-intuitive to consult a reference directed to an image detector, which should be designed to absorb as much radiation as possible.

Similar considerations apply to the Forrest et al. reference, which is directed to a solar cell, which is another type of device that should ideally be designed with a high degree of radiation absorption.

In summary, not only do Applicants submit that a combination of the teachings of the references relied upon by the Examiner would not result in a device comparable to that set forth in the dependent claims that were rejected under 35 U.S.C. §103(a), but also Applicants submit that the references relied upon by the Examiner teach away from, rather than suggesting, the subject matter of those dependent claims.

Applicants note with appreciation that claim 14 was stated to contain allowable subject matter, and would be allowable if rewritten in independent form. In view of Applicants' belief that independent claim 1 is allowable over the art of record, claim 14 has been retained in dependent form at this time.

Additionally, new claim 28 is submitted herein wherein the diode structure is explicitly stated to be a completely organic diode structure, and details of the materials forming the components of the completely organic diode structure are also

set forth. Claim 28 is basically a combination of previous claims 1 and 3, and a portion of claim 10. Claim 28 is submitted to be patentable over the art of record for the following reasons.

The Examiner relied on the Forrest et al. reference as part of the basis for rejecting claims 3 and 10. Applicant acknowledge that the Forrest et al. reference discloses organic layers, such as layers 303, 403 and 503, but the Forrest et al. reference does not disclose electrodes that are made of organic materials. In all exemplary embodiments disclosed in the Forrest et al. reference, ITO (Indium Tin Oxide) is cited as the material for the electrodes. This is stated at numerous locations in the Forrest et al. reference, such as column 17, lines 61-65, column 18, lines 32-33, and column 18, lines 39-40. This fact, combined with the aforementioned fact that both the Antonuk et al. and Forrest et al. structures are intentionally designed to be highly radiation absorbing, precludes the subject matter of claim 28 from being anticipated by, or obvious in view of, either of those references.

All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

Submitted by,

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